



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

D3910-3
Job Sheet 182383



Part No: D3910-3

Job Qty: 30 ea

Part Name: Crosstube Lug



Part Weight: 0 lbs

Status: Scheduled

Priority: Medium

Job Created: 8/23/18

Job Tracking No:

Due Date: 9/18/18

Created By: Marie Lajeunesse

Type: Stock

Description:

Note: DWG REV E SHEETS 1,3 IPP REV:A NEW ISSUE 09-11-25 JLM VERIFIED BY:DD IPP REV:B AS PER REV B 10-03-23 JLM VERIFIED BY:DD IPP REV:C 18.02.02 REMOVE FINISH DD VERF:JFS

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup hrs	Run Hrs	Workcenter / Supplier	Lead Time	
110	Purchasing	30 pcs		9/7/18	0.00	0.00	Purchasing		OCT 15 2018
120	Packaging	30 pcs		9/7/18	0.00	0.00	Packaging2		OCT 15 2018
130	QC	30 pcs		9/7/18	0.00	0.00	QC6		OCT 16 2018 68
180	Packaging	30 pcs		9/7/18	0.00	0.00	Packaging3-2	5723	9-89
190	QC21-SA	30 Ea		9/7/18	0.00	0.00	QC21		OCT 17 2018

Part Op 110 - ISSUE PO TO METEC, NOTE ALODINE AND PAINT AS PER QSI 005
Descriptions: 120 - Ensure C of C is attach

aug 23 2018 * 30 P. Lm 8004083L

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
D2423	Lug Extrusion	3.7500 ft (.125 ea)	110-Purchasing	5118294
D3910-3P	Crosstube Lug	30 pcs (1 ea)	110-Purchasing	5118293

M138951 START: 8:45 OUT: 3:00 FINISH: 9:15

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
110-Purchasing	D2423	4	344	0
	D3910-3P	30	0	0

Part Specifications

Spec No	Description	Target/Tolerance	Limits	Type	Special Comments
1	Crosstube Lug	4.450Inches ± 0.030	4.480 4.420		
2	Crosstube Lug	1.380Inches ± 0.030	1.410 1.350		
3	Crosstube Lug	0.080Inches ± 0.020	0.100 0.060	Radius	
4	Crosstube Lug	0.270Inches ± 0.030	0.300 0.240	reference	
5	Crosstube Lug	0.310Inches ± 0.030	0.340 0.280		
6	Crosstube Lug	0.735Inches ± 0.010	0.745 0.725	reference	

-DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :		Step #:		QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation				Disposition			
				Completed By			
				Lead hand / Supervisor Approval Verification			
				QC / QA Coordinator Approval			
Root Cause		FAULT CATEGORY					
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Container No: S118295 Part: D3910-3 Job No: 182383 Serial No/Batch: S118295 Revision: _____ Inspector: _____ Exp Date: _____ Instructions: Various STCs Date: 10/15/18 Wrong Stock Out of Sequence 1270 Aberdeen Street Hawkesbury, ON K6A 1K7 CANADA TEL: 1 613 632-6200 Email: sales@dartaero.com www.dartaerospace.com DART AEROSPACE	
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐		
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Broken/Damage/Defect ☐	Over/Under tolerance ☐		
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Inspection Incomplete/Un ☐	Contamination ☐			
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Cuffs ☐	Countersink ☐			
Material ☐	Use for Testing ☐	Crushing ☐	Heat Treat ☐	Cut Too Short ☐			
Internal Transport ☐	Poor Information ☐	Wave/Twist in Tube ☐	Instructions Incomplete/I ☐	Drill Holes ☐			
Tribal Knowledge ☐	Rushing ☐	Marks/Chatter ☐					
LOA ☐	Product Improvement ☐						
Substation ☐	Process Improvement ☐						
Past Expiry Date ☐	Manufacturing Process ☐						
Misidentified ☐	Past Due ☐						
		OTHER : _____					

7	Crosstube Lug	1.200Inches $\pm$ 0.030	1.230 1.170	Radius
8	Crosstube Lug	3.700Inches $\pm$ 0.010	3.710 3.690	
9	Crosstube Lug	0.375Inches $\pm$ 0.010	0.385 0.365	
10	Crosstube Lug	0.625Inches $\pm$ 0.010	0.635 0.615	
11	Crosstube Lug	0.375Inches $\pm$ 0.010	0.385 0.365	
12	Crosstube Lug	0.340Inches $\pm$ 0.030	0.370 0.310	Radius
13	Crosstube Lug	0.257Inches $\begin{matrix} + 0.006 \\ - 0.001 \end{matrix}$	0.263 0.256	Diameter
14	Crosstube Lug	0.100Inches $\pm$ 0.010	0.110 0.090	
15	Crosstube Lug	45.000Degrees $\pm$ 0.500	45.500 44.500	angle
16	Crosstube Lug	1.410Inches $\pm$ 0.030	1.440 1.380	Reference

Plex 8/23/18 10:20 AM Dart.lajeunesse.marie

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

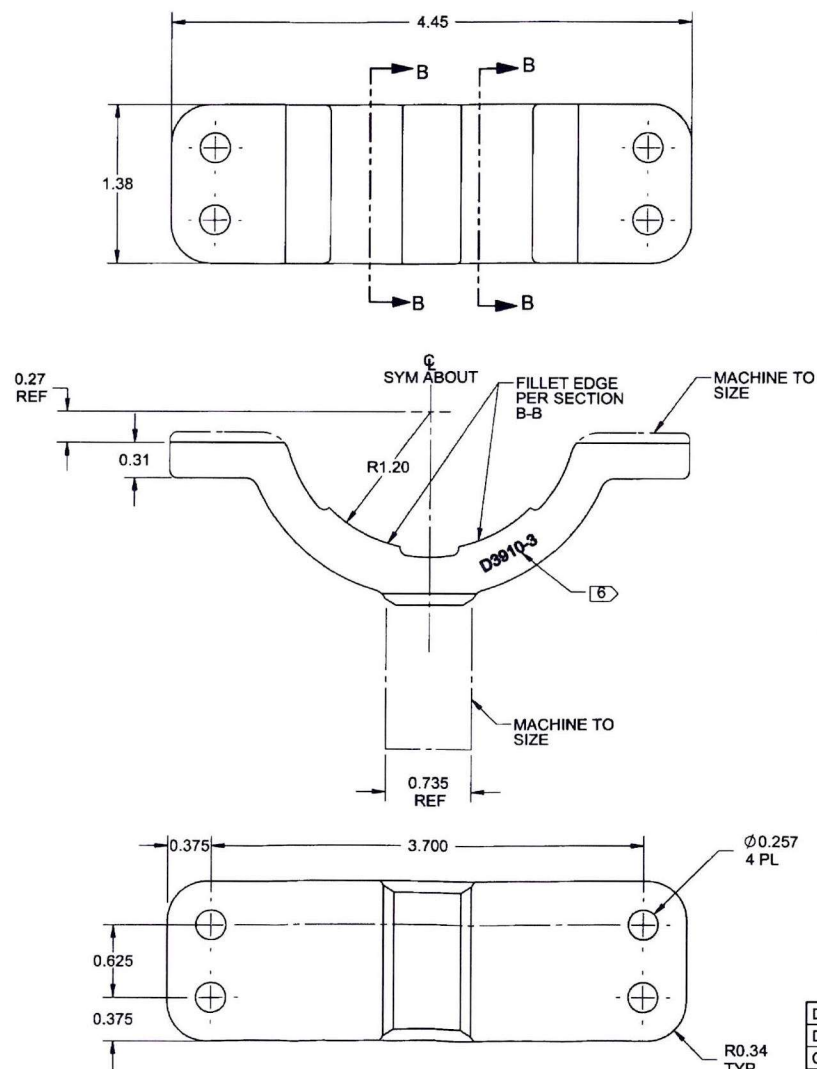
Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

SECTION B-B



ROUND EDGE
R0.06 MIN - 0.10 MAX
2 PL



D3910-3 X-TUBE LUG

RELEASED

2014 JUN 05

DESIGN	AJS	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. E
MFG. APPR.	<i>[Signature]</i>	D3910	SHEET 3 OF 5
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	X-TUBE LUG (350)	NTS
DATE	14.05.16	COPYRIGHT © 2010 BY DART AEROSPACE LTD	
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.			



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO040836**

Supplier: MEM001-VC
Metec Metal Technology Inc.
20 Terry Fox Drive PO Box 781
Vankleek Hill
ON
K0B 1R0 Canada
Phone: 613 678 3957
Fax: 613 678 3956

Attention: Walz, Shigi

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

PO No: PO040836

PO Date: 8/23/18

Due Date: 9/20/18

Purchase Order

Revision:

Revision Date:

Ship-To Contact: Lussier, Patrick Phone:

Via: Ground

Pymt Terms: Net 60

Freight Terms:

Special Comments:

E-MAILED
AUG 23 2018

Items

Line Item	Job	Part	Supplier Part No	Item No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1	182383	D3910-3P			Crosstube Lug : Various STC's As Per Dwg D3910 Rev. E Alodine and Paint as Per QSI 005	Firmed	-	9/20/18	30 pcs	0 pcs	30 pcs	\$17.40/pcs	\$522.00
Grand Total:													\$522.00

Order Notes

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Procurement Quality Clauses

A005 RIGHT OF ENTRY

A007 FIRST ARTICLE INSPECTION (FAI) BY SELLER, (DOCUMENTATION MAINTAINED BY SUPPLIER)

A012 CHEMICAL AND PHYSICAL TEST REPORTS

A016 PERSONNEL QUALIFICATION

A017 RAW MATERIAL IDENTIFICATION (AS APPLICABLE)

A026 CERTIFICATION OF MATERIAL CONFORMANCE

A041 QUALITY MANAGEMENT SYSTEM

A042 DART NOTIFICATION BY SUPPLIER

A043 RETENTION OF QUALITY DOCUMENT

A048 COUNTERFEIT PARTS AVOIDANCE, DETECTION, MITIGATION AND DISPOSITION PROGRAM

A049 SUPPLIER AWARENESS

[Signature]

Plex 8/23/18 3:51 PM dart.Lussier.Patrick



www.metec.ca | 20 Terry Fox Drive, Vankleek Hill, Ontario, Canada K0B 1R0 | Phone: +1 613-678-3957 Fax: +1 613-678-3956

Packing List

Bill Dart Aerospace Ltd.
To: 1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Canada

Ship Dart Aerospace Ltd.
To: 1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Canada

Shipment No: 24137
Shipment Date: 15-Oct-2018
Ship Via: Pick up at METEC
Order Number: 1810
Order Date: 08/23/18

Customer Code: DART
Phone: (613) 632-9577
PO Number: PO040836
Terms: ?

----- Quantity -----								Job	
<u>Item</u>	<u>Open</u>	<u>Shipped</u>	<u>B/O</u>	<u>Canceled</u>	<u>Unit</u>	<u>Description</u>	<u>Revision</u>	<u>Number</u>	
1	30	30 ✓	0	0	EA	DART-D3910-3P ✓ Crosstube Lug		1810-01	

The delivered goods must be inspected upon receipt to confirm compliance. Should there be discrepancies please notify METEC within 30 days of delivery. The goods are otherwise deemed accepted.

Received In Good Order By

Page 1 of 1



20 Terry Fox Drive, Vankleek Hill, Ontario K0B 1R0

Tel. (613) 678-3957 & (613) 678-2782 Fax (613) 678-3956 metec@metec.ca

CERTIFICATE OF CONFORMITY

SOLD TO:

Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, Ont.
K6A 1K7

SHIPPED TO:

same

Quantity	Part Number	Part Name	Dwg Rev.#	Material Batch #	Paint Batch #	P.O. Number
30	✓ D3910-3 ✓	Crosstube Lug	E	B160522	Unpainted	40836 ✓

MATERIAL: supplied by DART

We hereby certify that the above parts were made in conformance with applicable drawings.

METEC Metal Technology Inc.

Heather Nixon

Vankleek Hill, July 9, 2018

DAS
38
9-89

DAS
68
9-89